# HARSHIT SOHANEY

harshit.sohaney@mail.utoronto.ca | (437) 971-7300 | Toronto, CA
linkedin.com/in/harshitsohaney | www.harshitsohaney.com

## EXPERIENCE

**Application Developer Co-op** | Softchoice Corp. May 2022 – Aug 2022

- Improved the frontend and backend for **Single Page Applications (SPA)** on the company portal using **.NET Core** to help users navigate items efficiently
- Optimized API logging tables with **Object Relational Mapping (ORM)** using **LINQ to SQL** queries to improve access time from 30 seconds to 2 seconds
- Implemented a planning interface by creating APIs to assist in determining development time and creating tasks

**Firmware Member** | UofT Aerospace Team Sep 2020 - Present

- Configuring SD Card data transfer using an **STM32H743** Developer Board and an Arduino Uno. Debugging the **FatFs** file system to manually transfer and receive data from the optical system to store CO2 emission data efficiently
- Automating satellite to ground station communication using **Python** to coordinate different commands by tracking TX and RX signals

**Project Lead** | Google Solution Challenge Dec 2020 – May 2021

- Applied **SCRUM** management techniques to coordinate a team of 4 in prototyping a web-app hosting the lost & found system of Toronto
- Designed a real time **NoSQL** database using **Firestore** to keep store all reports received and tracked
- Integrated and constructed multiple parts of the application using **JavaScript** to bring together all components created by the team

## PROJECT HIGHLIGHTS

**Moodlist** | Deep Learning Project Oct 2022 - Present

- Training a mood classifier based on a user's music history to personalize recommendations using **PyTorch, NumPy**, and the **Spotify API**
- Improving the pipeline of **Feature Engineering** by developing a data cleaning workflow to process a 1 million item dataset with over 5 gigabytes of data
- Engineering a **Convolutional Recurrent Neural Network (CRNN)** architecture with a target accuracy of 85% in predicting a user's mood

**GIS Mapping System** | University of Toronto ECE297 Jan 2022 - May 2022

- Developed a navigation system using the OpenStreetMap database with **C++**. Iterated to improve movement speed by 98% to make the app user friendly
- Applied algorithms such as **Breadth First Search, Dijkstra**, and **A*** to optimize pathfinding and included various features to accompany the algorithms (directions, subways, search bar)
- Employed heuristic algorithms such as **2-opt** and **Simulated Annealing** with techniques like **multi-threading** to find an optimum solution to the Travelling Salesman Problem

## ACHIEVEMENTS

- **Second Place Prize** winner against 20 teams at ENACTUS UofT Innovation Pitch Competition for a social venture
- **Second Place Prize** winner against 200+ participants at NewHacks 2022

## EDUCATION

**Bachelor of Applied Science**
in Computer Engineering

**University of Toronto**

Sept 2020 – May 2024

*CGPA* - 3.62/4.00
*Minor* in Artificial Intelligence
*Dean's List* recipient - Winter 2020 - 2021, Fall 2021

### Courses

Data Structures & Algorithms, Operating Systems, Intro to Deep Learning, Probability & Statistics

### Clubs & Positions

**UofTHacks** - Executive, **Digital Society** - Events Director, **Learn AI** - Curriculum Content Lead, **ECE Club** - Events Director, **UofT Aerospace Design Team** - Firmware & Optics, Performing Musician

## TECHNICAL SKILLS

### Programming

**Software**
C/C++ | Python | C# | Git | MySQL | MATLAB

**Web**
JavaScript | AngularJS | HTML5/CSS3 | jQuery | React

**Skills**
Agile Development | SCRUM | Software Communication | Engineering Design

### Machine Learning

PyTorch | Numpy | TensorFlow | NLTK | Matplotlib | Pandas

### Software and Frameworks

OOP | .NET Development | MVC Architecture | LINQ | GCP | STM32CUBE